AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A mixer, comprising:

a differential amplifier for receiving and amplifying input signals, the differential amplifier providing a predetermined gain to the input signals;

a load for providing a load impedance;

a dual differential switching stage, coupled to the differential amplifier and the load, the dual differential switching stage mixing the amplified input signals from the differential amplifier with a local oscillator signal to produce an output signal at the load; and

a current ~~modifier~~ sink, coupled to the differential amplifier, the current ~~modifier~~ ~~altering~~ sink drawing current [[in]] from the differential amplifier to adjust current through the load.

Claims 2-3. (Cancelled)

4. (Currently Amended) The mixer of claim [[3]] 1, wherein the current ~~source~~ sink comprises a first and second current device, the first current device being coupled to a first transistor of the differential amplifier and the second current device being coupled to a second transistor of the differential amplifier.

5. (Currently Amended) The mixer of claim 4, wherein the current ~~source reduces~~ sink increases the current flowing through the load ~~to enable a lower supply voltage.~~

Claims 6-7. (Cancelled)

8. (Original) The mixer of claim 1, wherein the differential amplifier comprises a first and second transistor differentially coupled having first electrodes joined at a common node.

9. (Original) The mixer of claim 8, wherein the first electrodes comprise sources of the first and second transistors of the differential amplifier.

10. (Previously Presented) The mixer of claim 8, wherein the first electrodes comprise drains of the first and second transistors of the differential amplifier.

11. (Original) The mixer of claim 8, wherein the dual differential switching stage comprises a first differential transistor pair having first electrodes coupled at a first common connection and a second differential transistor pair having second electrodes coupled at a second common connection, the first common connection being coupled to a second electrode of the first transistor of the differential amplifier and the second common connection being coupled to a second electrode of the second transistor of the differential amplifier.

12. (Previously Presented) The mixer of claim 11, wherein the first electrodes of the first differential transistor pair comprise sources, the second electrodes of the second differential transistor pair comprise sources, the second electrode of the first transistor of the differential amplifier comprises a drain and the second electrode of the second transistor of the differential amplifier comprises a drain.

13. (Previously Presented) The mixer of claim 11, wherein the first electrodes of the first differential transistor pair comprise source electrodes, the second electrodes of the second differential transistor pair comprise source electrodes, the second electrode of the first transistor of the differential amplifier comprises a drain electrode and the second electrode of the second transistor of the differential amplifier comprises a drain electrode.

14. (Original) The mixer of claim 1, wherein the dual differential switching stage comprises a first differential transistor pair having first electrodes coupled at a first common connection and a second differential transistor pair having second electrodes coupled at a second common connection.

15. (Original) The mixer of claim 14, wherein the first electrodes and second electrodes comprise source electrodes.

16. (Previously Presented) The mixer of claim 14, wherein the first electrodes and second electrodes comprise drain electrodes.

17. (Original) The mixer of claim 1, wherein the dual differential switching stage comprises first and second differential pairs, the first and second differential pairs having output electrodes cross coupled.

18. (Currently Amended) A mixer, comprising:

     a Gilbert cell comprising an RF amplifier stage and a mixer stage; and

     a current ~~modifier~~ sink, coupled to the RF amplifier stage, the current ~~modifier~~ ~~altering~~ sink drawing current [[in]] from the RF amplifier stage to adjust current through [[the]] a load.

Claims 19-20. (Cancelled)

21. (Currently Amended) The mixer of claim [[20]] 18, wherein the current ~~source~~ sink comprises a first and second current device, the first current device being coupled to a first transistor of the amplifier stage and the second current device being coupled to a second transistor of the amplifier stage.

22. (Currently Amended) The mixer of claim 21, wherein the current ~~source reduces~~ sink increases the current flowing through the load ~~to enable a lower supply voltage~~.

Claims 23-24. (Cancelled)

25. (Previously Presented) The mixer of claim 18, wherein the mixer stage comprises first and second differential pairs, the first and second differential pairs having output electrodes cross coupled.

Claim 26. (Cancelled)

27. (Original) A method for mixing two signals, comprising:

      providing a Gilbert cell comprising an RF amplifier stage and a mixer stage; and

      sinking current from the amplifier stage to alter current through the mixer stage.

Claim 28. (Cancelled)

29. (Original) A mixer, comprising:

      means for amplifying an input signal;

      means for receiving the amplified input signal and for providing a balanced differential output signal having a first frequency translated using the frequency of the amplified input signal; and

      means, coupled to the means for amplifying, for sinking current from the means for amplifying to alter current through the means for receiving the amplified input signal and for providing a balanced differential output signal.

30. (Currently Amended) A mixer, comprising:

      a differential amplifier for receiving and amplifying a first input signal;

      first and second current ~~sources~~ <u>sinks</u>, each coupled to the differential amplifier, the first and second current ~~sources~~ <u>sinks</u> altering the amplification of the first input signal;

      a load for providing a load impedance; and

      a dual differential switching stage, coupled to the differential amplifier and to the load, the dual differential switching stage mixing a second input signal with the altered and amplified first input signal, whereby an output signal is produced at the load.